Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLUE RIDGE REGIONAL OFFICE

901 Russell Drive, Salem, Virginia 24153

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www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

Robert J. Weld
Regional Director

April 24, 2023

Mr. Jerry Adams
General Manager
Roanoke Electric Steel d/b/a Steel Dynamics Corp. Roanoke Bar Division
102 Westside Blvd NW
Roanoke, VA 24017
jerry.adams@steeldynamics.com

Location: Roanoke City
Registration No.: 20131

Dear Mr. Adams:

Attached is a renewal Title V permit to operate your facility pursuant to 9VAC5 Chapter 80 Article 1 of the Virginia Regulations for the Control and Abatement of Air Pollution. The attached permit will be in effect beginning April 24, 2023.

In the course of evaluating the application and arriving at a final decision to issue this permit, the Department of Environmental Quality (DEQ) deemed the application complete on April 8, 2022 and solicited written public comments by placing a newspaper advertisement in *The Roanoke Times* on March 22, 2023. The thirty-day required comment period, provided for in 9VAC5-80-270 expired on April 21, 2023.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

This permit approval to operate shall not relieve Roanoke Electric Steel d/b/a Steel Dynamics Corp. Roanoke Bar Division of the responsibility to comply with all other local, state, and federal permit regulations.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the

DEQ within 30 days after this case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact please contact the regional office at 540-562-6700.

Sincerely,

Paul R. Jenkins

for Robert J. Weld
Regional Director

Attachment: Permit
Attachment A: CAM Plan for EAF#5
Attachment B: CAM Plan for LMS #5
Attachment C: Source Testing Report Format

cc: Christina Clark, DEQ BRRO Air Compliance Inspector (electronic)
Yongtian (Tom) He, EPA Region III (he.yongtian@epa.gov)
Maya Whitaker, DEQ Office of Air Permit Programs (OAPP) (maya.whitaker@deq.virginia.gov)
Tom Stinson, SDI (tom.stinson@steeldynamics.com)
Jesse Newman, SDI (jesse.newman@steeldynamics.com)

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Federal Operating Permit
Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1, of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9VAC5-80-50 through 9VAC5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	**Roanoke Electric Steel Corporation d/b/a Steel Dynamics Roanoke Bar Division**
Facility Name:	**Steel Dynamics Roanoke Bar Division**
Facility Location:	**102 Westside Blvd. NW** **Roanoke, Virginia**
Registration Number:	**20131**
Permit Number:	**BRRO - 20131**

This permit includes the following program: Federally Enforceable Requirements - Clean Air Act

April 24, 2023
Effective Date

April 23, 2028
Expiration Date

Paul R. Jenkins
for Regional Director

April 24, 2023
Signature Date

CAM Plan: Attachments A, B
Source Testing Report Format: Attachment C

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Facility Information

Permittee
Roanoke Electric Steel Corporation d/b/a Steel Dynamics Roanoke Bar Division
102 Westside Blvd NW
Roanoke, VA 24017

Responsible Official
Jerry Adams
General Manager

Facility
Roanoke Electric Steel Corporation d/b/a Steel Dynamics Roanoke Bar Division
102 Westside Blvd NW
Roanoke, VA 24017

Contact Persons
Tom Stinson
Environmental Engineer
(540) 983-7240

Jesse Newman
Environmental Specialist
(540) 983-7240

County-Plant Identification Number: 51-161-0004

Facility Description: NAICS 331110 – Iron and Steel Mills and Ferroalloy Manufacturing. This establishment primarily engages in manufacturing hot metal, pig iron and silvery pig iron from iron ore, iron and steel scrap and iron pellets; the converting of pig iron, scrap iron, and scrap steel into steel; and the hot-rolling iron and steel into basic shapes.

Since 1955, Roanoke Electric Steel Corp. d/b/a Steel Dynamics Roanoke Bar Division (SDI) is a secondary steel mill, primarily engaged in the manufacture (melting) of steel billets and the rolling of steel. The facility is designated as a Title V major source for CO, NOx, PM, PM_{10}, $PM_{2.5}$, VOC pollutants, and an area source for hazardous air pollutants. All emissions from the electric arc furnace (EAF #5) (and Ladle Metallurgical Station (LMS #5)) are captured and ducted to a fabric filter. SDI is located in an attainment area for all pollutants and is a Prevention of Significant Deterioration (PSD) major source for PM, PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, and lead (Pb). SDI is also governed by an Early Action Compact (EAC) for ozone. As a steel mill that utilizes an electric arc furnace, the facility is subject to MACT YYYYY, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities" and NSPS Subpart AAa, "Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983".

Emission Units

Process Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
EU-31	---	Diesel-Fired Emergency Generator	755 hp (563 kW)	--	--	--	--
120	---	Natural Gas-Fired Emergency Generator	54 hp	--	--	--	--
121	---	Natural Gas-Fired Emergency Generator	20 hp	--	--	--	--
122	---	Natural Gas-Fired Emergency Generator	210 hp	--	--	--	--
123	---	Natural Gas-Fired Emergency Generator	56 hp	--	--	--	--
SMS BRF	026	Billet Reheat Furnace	156.8×10^6 Btu/hr, 140 tons steel per hr	Low NOx burner and EGR	PCD-26	NOx	9/13/2022
EAF #5	005	Electric Arc Furnace #5	100 ton/hr (steel)	DEC / Positive Pressure Baghouse	PCD-274	CO, PM, PM-10	12/19/2019, 3/25/2020
LMS #5	007	Ladle Metallurgical Station #5	100 ton/hr (steel)	Positive Pressure Baghouse	PCD-7	PM, PM-10	12/19/2019, 3/25/2020
EU-11	---	Melt Shop building fugitive w/ canopy hoods	--	--	--	--	--
EU-14	014	Lime Silo	4 ton/hr	Bin vent filter	PCD-14	PM	--
EU-15	015	Lime Silo	4 ton/hr	Bin vent filter	PCD-15	PM	--
EU-16	016	Lime Silo	4 ton/hr	Bin vent filter	PCD-16	PM	--
144	144	Carbon Silo	4 ton/hr	Bin vent filter	PCD-17	PM	--

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only and is not an applicable requirement.

Fuel Burning Equipment Requirements – (EU-31, 120, 121, 122, and 123)

Limitations

1. **Fuel Burning Equipment Requirements - (EU-31, 120, 121, 122 and 123) - Limitations** Visible Emissions from the emergency engines shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity. The opacity standards for the engines apply at all times except during periods of startup, shutdown and malfunction.
(9VAC5-80-110 and 9VAC5-50-80)

2. **Fuel Burning Equipment Requirements – (EU-31) - Limitations** – The approved fuel for the emergency engine is diesel fuel. A change in fuel may require a permit to modify and operate.
(9VAC5-80-110)

3. **Fuel Burning Equipment Requirements – (120, 121, 122 and 123) - Limitations** – The approved fuel for the emergency engines is natural gas. A change in fuel may require a permit to modify and operate.
(9VAC5-80-110)

4. **Fuel Burning Equipment Requirements – (EU-31,120, 121, 122, 123) – Limitations -** At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

   The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the engines:

   a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

   b. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

   c. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

   Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
   (9VAC5-80-110)

Recordkeeping

5. **Fuel Burning Equipment Requirements – (EU-31, 120, 121, 122, 123)– Recordkeeping-** The permittee shall maintain records of scheduled and non-scheduled maintenance, written operating procedures, training and fuel requirements. The training records shall include the information specified in Condition 4c. Fuel records shall include the information specified in Condition 13. Records shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9VAC5-80-110)

MACT ZZZZ – Stationary Reciprocating Internal Combustion Engines

General Compliance Requirement

6. **MACT Subpart ZZZZ – (EU-31, 120, 121, 122, and 123) – General Compliance Requirements –** The permittee must be in compliance with the emission limitations, operating limitations and other requirements in Subpart ZZZZ that apply to the source at all times. At all times the permittee shall operate and maintain the affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.
(9VAC5-80-110 and 40 CFR 63.6605)

7. **MACT Subpart ZZZZ - (EU-31) – General Compliance Requirements –** The permittee must comply with 40 CFR 63, Subpart ZZZZ by complying with the applicable requirements of 40 CFR 60, Subpart IIII, as listed in Conditions 9 through 10. No other requirements of Subpart ZZZZ apply to engine EU-31.
(9VAC5-80-110 and 40 CFR 63.6590 (c))

8. **MACT Subpart ZZZZ - (120, 121, 122, and 123) – General Compliance Requirements** The permittee must comply with 40 CFR 63, Subpart ZZZZ by complying with the applicable requirements of 40 CFR 60, Subpart JJJJ, as listed in Conditions 20 through 27. No other requirements of Subpart ZZZZ apply to engines 120, 121, 122, and 123.
(9VAC5-80-110 and 40 CFR 63.6590 (c))

NSPS IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – (EU-31)

General Compliance Requirements

9. **NSPS Subpart IIII - (EU-31) – General Compliance -** The emergency stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder that are not fire pump engines shall comply with the emission standards for new nonroad CI engines

in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI internal combustion engine. (9VAC5-80-110 and 40 CFR 60.4205)

10. **NSPS Subpart IIII - (EU-31)** – **General Compliance** - The permittee shall comply with the applicable requirements of 40 CFR Subpart A as listed in 40 CFR 60 Subpart IIII Table 8.
(9VAC5-80-110 and 40 CFR 60.4218)

Emission Standards

11. **NSPS Subpart IIII - (EU-31)** – **Emission Standards** – For the 2007 model year and later emergency stationary CI internal engine with a displacement of less than 30 liters per cylinder that are not fire pump engines, the permittee shall comply with the applicable requirements for the stationary CI internal combustion engine according to new nonroad CI engines in 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power.
(9VAC5-80-110 and 40 CFR 60.4205)

12. **NSPS Subpart IIII - (EU-31)** – **Emission Standards** - The permittee must operate and maintain the stationary CI internal combustion engine to achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine.
(9VAC5-80-110 and 40 CFR 60.4206)

Fuel Requirements

13. **NSPS Subpart IIII - (EU-31)** – **Fuel Requirement** - The emergency stationary CI internal combustion engine that use diesel fuel shall use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.
(9VAC5-80-110 and 40 CFR 60.4207)

Other Requirements

14. **NSPS Subpart IIII - (EU-31)** – **Other Requirements** - After December 31, 2008, the permittee may not install a stationary CI ICE (excluding fire pump engines) that does not meet the applicable requirements for 2007 model year engines.
(9VAC5-80-110 and 40 CFR 60.4208)

Monitoring Requirements

15. **NSPS Subpart IIII - (EU-31)** – **Monitoring Requirements** - The permittee shall install a non-resettable hour meter on the stationary CI engine if one is not already installed.
(9VAC5-80-110 and 40 CFR 60.4209)

Compliance Requirements

16. **NSPS Subpart IIII - (EU-31)** – **Compliance Requirements** - The permittee shall comply with the emission standards in 40 CFR 60.4205(b). The permittee must comply by purchasing an engine certified to the emission standards specified in 40 CFR 60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).
(9VAC5-80-110 and 40 CFR 60.4211 (c))

17. **NSPS Subpart IIII - (EU-31)** – **Compliance Requirements** - In order for the engine to be considered an emergency stationary RICE under 40 CFR 60 Subpart IIII, any operation other than those listed in 40 CFR 60.4211(f), as described in 40 CFR 60.4211(f), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4211(f), the engine will not be considered an emergency engine under 40 CFR 60 Subpart IIII and shall meet all requirements for non-emergency engines.
(9VAC5-80-110 and 40 CFR 60.4211 (f))

Notification, Reports and Records

18. **NSPS Subpart IIII - (EU-31)** – **Notification, Report and Records** - The permittee is not required to submit an initial notification for the stationary CI internal combustion engine that is an emergency stationary internal combustion engine. Starting with the model year in Table 5 of 40 CFR 60 Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.
(9VAC5-80-110 and 40 CFR 60.4214)

19. **NSPS Subpart IIII - (EU-31)** – **Records** - The permittee shall maintain records to demonstrate compliance with the fuel requirements in Condition 13. Records must be kept for 5 years from the date they were created. All records shall be available upon request.
(9VAC5-80-110 and 40 CFR 1090.1200)

NSPS JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (120, 121, 122, and 123)

General Compliance Requirements

20. **NSPS Subpart JJJJ – (120, 121, 122, and 123)** – **General Compliance Requirements** - The permittee shall comply with the applicable requirements of 40 CFR 60 Subpart A as listed in 40 CFR 60 Subpart JJJJ Table 3.
(9VAC5-80-110 and 40 CFR 60.4246)

Emission Standards and Other Requirements

21. **NSPS Subpart JJJJ – (121)** – **Emission Standards** - The emergency stationary SI engine shall comply with the emission standards in 60.4231(a) over the entire life of the engine. (9VAC5-80-110, 40 CFR 60.4233(a), and 40 CFR 60.4234)

22. **NSPS Subpart JJJJ – (120, 122 and 123)** – **Emission Standards** - The emergency stationary SI engines shall comply with the emission standards in Table 1 of 40 CFR 60 Subpart JJJJ over the entire life of the engines.
(9VAC5-80-110, 40 CFR 60.4233(d)(e), and 40 CFR 60.4234)

Compliance Requirements

23. **NSPS Subpart JJJJ – (121)** – **Compliance Requirements** - The permittee shall comply with Condition 21 in accordance with 40 CFR 60.4243 (a), for the same engine class and maximum engine power.
(9VAC5-80-110, 40 CFR 60.4243)

24. **NSPS Subpart JJJJ – (120, 122, and 123)** – **Compliance Requirements** - The permittee shall comply with Condition 22 in accordance with 40 CFR 60.4233 (d) or (e), as applicable. The permittee shall demonstrate compliance according to one of the methods specified in 60.4243(b)(1) and (2).
(9VAC5-80-110 and 40 CFR 60.4243 (b))

25. **NSPS Subpart JJJJ – (120, 121, 122, and 123)** – **Compliance Requirements** - The permittee shall operate the emergency stationary SI combustion engine according to the requirements in paragraphs (d)(1) through (3) of 40 CFR 60.4243. Operation for non-emergency purposes may require a permit to modify and operate pursuant to 9VAC5-80 Article 6.
(9VAC5-80-110 and 40 CFR 60.4243(d))

Monitoring

26. **NSPS Subpart JJJJ – (120, 121, 122 and 123)** – **Monitoring Requirements** - If the emergency stationary SI internal combustion engines do not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter on each engine according to 40 CFR 60.4237 (b) and (c).
(9VAC5-80-110 and 40 CFR 60.4237)

Notification, Reports and Records

27. **NSPS Subpart JJJJ – (120, 121, 122, and 123)** – **Reports and Records** - The permittee shall maintain records and submit reports as required for the stationary SI internal

combustion engine according to 40 CFR 60.4243(a)(1) and 40 CFR 60.4245(a), as applicable.
(9VAC5-80-110, 40 CFR 60.4243, and 40 CFR 60.4245)

28. **NSPS JJJJ – (120, 121, 122, and 123) - Reports and Records** - The permittee shall report each instance in which the SI internal combustion engine does not meet the emission standards in 40 CFR 60.4233(a) through (e) and any applicable requirement included in requirements of 40 CFR 60 Subpart A as listed in 40 CFR 60 Subpart JJJJ Table 3. The permittee shall report all deviations in the semiannual monitoring reports as outlined in Condition 135.
(9VAC5-80-110 and 40 CFR 60.4246)

Process Equipment Requirements – Electric Arc Furnace 5 (EAF #5)

Limitations

29. **Process Equipment Requirements - (EAF #5) - Limitations –** Except where this permit is more restrictive, the EAF #5 shall operate in compliance with 40 CFR 60 Subpart AAa.
(9VAC5-80-110, 9VAC5-50-410, 40 CFR 60.270a, and Condition 3 of 12/19/2019 Permit Document)

30. **Process Equipment Requirements - (EAF #5) - Limitations –** Particulate emissions (PM, PM-10) from EAF #5 shall be controlled by fabric filter. The fabric filter (EAF #5) shall be provided with adequate access for inspection. The fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.
(9VAC5-80-110 and Condition 5 of 12/19/2019 Permit Document)

31. **Process Equipment Requirements - (EAF #5) - Limitations –** Carbon Monoxide (CO) emissions from the EAF #5 shall be controlled by use of a Direct Evacuation Control (DEC) system with air gap. An annual internal inspection shall be conducted on the ductwork by the permittee to ensure structural integrity. The width of the combustion air gap in the ductwork shall be set to maximize CO combustion.
(9VAC5-80-110 and Condition 6 of 12/19/2019 Permit Document)

32. **Process Equipment Requirements - (EAF #5) - Limitations** - The approved fuel for the EAF #5 burners is Natural Gas. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110, Condition 8 of 12/19/2019 Permit Document and Condition 10 of 3/25/2020 Permit Document)

33. **Process Equipment Requirements - (EAF #5) - Limitations** - The annual production of molten steel from EAF #5 shall not exceed 876,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.
(9VAC5-80-110 and Condition 11 of 12/19/2019 Permit Document)

34. **Process Equipment Requirements - (EAF #5) - Limitations** - Emissions from the operation of EAF #5 shall not exceed the limits specified below:

PM	0.0034 gr/dscf	9.80 lb/hr	43.1 ton/yr
PM-10 (filterable)		7.50 lb/hr	32.8 ton/yr
Sulfur Dioxide		16.80 lb/hr	73.6 ton/yr
Nitrogen Oxides (as NO_2)		37.80 lb/hr	165.6 ton/yr
Carbon Monoxide		240.00 lb/hr	1052.2 ton/yr
Volatile Organic Compounds		30.00 lb/hr	131.4 ton/yr
Lead (Pb)		0.30 lb/hr	1.3 ton/yr
Fluoride		0.54 lb/hr	2.4 ton/yr

(9VAC5-80-110, 9VAC5-40-7410, 40 CFR 60.272a (a)(1), 40 CFR 63.10686, Condition 19 of 12/19/2019 Permit Document, and Condition 11 of 3/25/2020 Permit Document)

35. **Process Equipment Requirements - (EAF #5) - Limitations** - Visible emissions from the EAF #5 (fabric filter (PCD 274) shall not exhibit three (3) percent or greater opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110, 40 CFR 60.272a and Condition 22 of 12/19/2019 Permit Document)

36. **Process Equipment Requirements - (EAF #5) - Limitations** - Visible emissions from the melt shop due solely to the operation of EAF #5 shall not exhibit six (6) percent or greater opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110, 40 CFR 60.272a, 40 CFR 63.10686, and Condition 23 of 12/19/2019 Permit Document)

37. **Process Equipment Requirements - (EAF #5) - Limitations** - Visible emissions from the dust handling systems for the EAF #5 shall not exhibit ten (10) percent or greater opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110, 40 CFR 60.272a, and Condition 24 of 12/19/2019 Permit Document)

38. **Process Equipment Requirements - (EAF #5) - Limitations** - In accordance with 9VAC5-40-7410, the facility shall meet either the presumptive RACT requirements of 9VAC5-40-7430 or the RACT requirements determined by a RACT determination in accordance with 9VAC5-40-7410 for the following equipment which are sources of NOx emissions and implemented through the remaining conditions of this permit:

    EAF #5 (Electric Arc Furnace #5), melts scrap steel, 100 ton/hr steel output rated capacity, heated primarily with electricity, supplemented with auxiliary natural gas burners inside the steel melting furnace.
    (9VAC5-80-110, 9VAC5-40-7410, and Condition 1 of 3/25/2020 Permit Document)

39. **Process Equipment Requirements - (EAF #5) - Limitations** - NOx emissions from Electric Arc Furnace #5 for melting scrap steel shall be controlled by proper operation and maintenance. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule. These procedures shall be based on the manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
    (9VAC5-80-110, 9VAC5-40-7410, and Condition 4 of 3/25/2020 Permit Document)

Monitoring

40. **Process Equipment Requirements - (EAF #5) - Monitoring** - A continuous emission monitor shall be installed, calibrated, maintained and operated to measure and record opacity. The opacity monitor shall be located in the exhaust of the baghouse controlling EAF #5 (PCD 274). The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Blue Ridge Regional Office.
    (9VAC5-80-110, 40 CFR 60.273a, and Condition 16 of 12/19/2019 Permit Document)

41. **Process Equipment Requirements - (EAF #5) – Monitoring -** A continuous opacity monitoring system may be used to satisfy visible emission initial performance compliance in lieu of Test Method 9. Reported test data to include averages of all six (6) minute continuous periods.
    (9VAC5-80-110, 40 CFR 60.273a, and Condition 18 of 12/19/2019 Permit Document)

42. **Process Equipment Requirements – (EAF #5) – Monitoring** – During any performance test required under §60.8 of to determine compliance with §60.272a (a)(3), the permittee shall monitor the information according to §60.274a (h) of NSPS Subpart AAa for all heats covered during performance testing.
    (9VAC5-80-110 and 40 CFR 60.274a)

43. **Process Equipment Requirements - (EAF #5) – Monitoring -** The permittee shall establish a normal operating range for the differential pressure drop across the fabric filter (PCD-274), based on manufacturer's recommendations, developed from observations recorded from the monitoring device during normal operation, performance test data, and/or other DEQ approved methods. The permittee shall maintain written documentation of this range.
(9VAC5-80-110 E & K)

44. **Process Equipment Requirements - (EAF #5) – Monitoring -** A furnace static pressure monitoring device is not required on EAF#5 equipped with a DEC system as long as observations of shop opacity are performed by a certified visible emission observer in accordance with 40 CFR 60.273a (d).
(9VAC5-80-110 and 40 CFR 60.273a)

Compliance Assurance Monitoring

45. **Process Equipment Requirements - (EAF #5) - Compliance Assurance Monitoring (CAM) -** The permittee shall monitor, operate, calibrate, and maintain the baghouse (PCD-274) controlling PM emissions from EAF #5 according to the CAM plan attached to this permit (Attachment A).
(9VAC5-80-110 and 40 CFR 64.6 (c))

46. **Process Equipment Requirements (EAF #5) - CAM** - The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.
(9VAC5-80-110 and 40 CFR 64.6 (c))

47. **Process Equipment Requirements (EAF #5) – CAM** - At all times, the permittee shall maintain the monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
(9VAC5-80-110 E and 40 CFR 64.7 (b))

48. **Process Equipment Requirements (EAF #5) – CAM** - Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that EAF #5 is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.
(9VAC5-80-110 E and 40 CFR 64.7 (c))

49. **Process Equipment Requirements (EAF #5) – CAM** - Upon detecting an excursion or exceedance, the permittee shall restore operation of EAF #5 (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording those operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.
(9VAC5-80-110 E and 40 CFR 64.7 (d)(1))

50. **Process Equipment Requirements (EAF #5) – CAM** - Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
(9VAC5-80-110 E and 40 CFR 64.7(d)(2))

51. **Process Equipment Requirements (EAF #5) – CAM** - If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Blue Ridge Regional Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
(9VAC5-80-110 E and 40 CFR 64.7(e))

52. **Process Equipment Requirements (EAF #5) – CAM** - If the number of exceedances or excursions exceeds 5 percent duration of the operating time for the EAF #5 for a semiannual reporting period, the permittee shall develop, implement and maintain a Quality Improvement Plan (QIP) in accordance with 40 CFR 64.8. If a QIP is required, the permittee shall have it available for inspection. The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the permittee shall modify the plan to include procedures for conducting one or more of the following, as appropriate:

    a. Improved preventative maintenance practices;

b. Process operation changes;

c. Appropriate improvements to control methods;

d. Other steps appropriate to correct control performance; and

e. More frequent or improved monitoring.

(9VAC5-80-110 E and 40 CFR 64.8(a) and (b))

Recordkeeping

53. **Process Equipment Requirements – (EAF #5) – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Annual throughput of tons of molten steel for EAF #5, calculated monthly as the sum of each consecutive twelve (12) month period,

    b. All fuel supplier certifications.

    c. Records of operator training.

    d. The total amount of NOx emitted from EAF #5 using methods and/or calculations approved by DEQ, calculated monthly as the sum of the previous consecutive twelve-month period.

    e. The NOx performance test reports for any equipment in this permit, including for EAF #5.

    f. Maintain written documentation of the normal operating range for the differential pressure drop across the fabric filter from Condition 43.

    g. Records of operator training, maintenance schedules and record of maintenance performed that could affect NOx emissions as required by the Process Requirements – Limitations for EAF #5.

    These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
    (9VAC5-80-110, 9VAC5-40-7510, Condition 27 of 12/19/2019 and Condition 14 of 3/25/2020 Permit Documents)

54. **Process Equipment Requirements – (EAF #5) – Recordkeeping** - The permittee shall maintain monitoring records pertaining to §60.274a for at least 5 years following the date of the measurement.
(9VAC5-80-110 and 40 CFR 60.276a)

55. **Process Equipment Requirements (EAF #5) – Recordkeeping –** The permittee shall maintain records of all shop opacity observations made in accordance with §60.273a(d). All shop opacity observations in excess of the emission limit specified in §60.272a(a)(3) shall indicate a period of excess emission.
(9VAC5-80-110 and 40 CFR 60.276a)

56. **Process Equipment Requirements – (EAF #5) – Recordkeeping -** In order to minimize the duration and frequency of excess emissions due to malfunctions of process equipment or air pollution control equipment, the permittee shall:

    a. Develop an overall maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.

    b. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.

    (9VAC5-80-110, 40 CFR 60.276a, and Condition 31 of 12/19/2019 Permit Document)

57. **Process Equipment Requirements – (EAF #5) - Recordkeeping -** The permittee shall have available written operating procedures for the permitted equipment and for the related air pollution control equipment. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training and nature of training.
(9VAC5-80-110 and Condition 32 of 12/19/2019 Permit Document)

58. **Compliance Assurance Monitoring (CAM) – (EAF #5) - Recordkeeping** - The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan (QIP) required pursuant to §64.8 and any activities undertaken to implement a quality improvement plan (QIP), and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
(9VAC5-80-110 and 40 CFR 64.9(b))

Reporting

59. **Process Equipment Requirements (EAF #5) – Reporting –** The permittee shall submit a written report of exceedances in accordance with the semiannual schedule in Condition 135. Exceedances are defined as:

    a. All 6-minute periods during which the average opacity is 3 percent or greater.

    b. Either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under 40 CFR 60.274a(c) or operation at flow rates lower than those established under 40 CFR 60.274a(c).

    c. All shop opacity observations in excess of the emission limit specified in 40 CFR 60.272a(a)(3)

    Operation at these values may be considered to be unacceptable operation and maintenance of the facility.
    (9VAC5-80-110, 40 CFR 60 Appendix B, and 40 CFR 60.276a)

60. **Process Equipment Requirements (EAF #5) – Reporting –** The permittee shall furnish a written report for the demonstration of compliance with §60.272a. The report shall contain the information found in 60.276a(f).
    (9VAC5-80-110 and 40 CFR 60.276a)

61. **Compliance Assurance Monitoring (CAM) – (EAF #5) - Reporting** - The permittee shall submit CAM reports as part of the Title V semi-annual monitoring reports required by General Condition 135 of this permit to the Blue Ridge Regional Office. Such reports shall include at a minimum:

    a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

    b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

    c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

    (9VAC5-80-110 F and 40 CFR 64.9(a))

62. **Relationship to Other Permit - (EAF #5)** - Except to the extent that the conditions in this permit that are derived from the 3/25/2020 permit may be more stringent, this permit does not supersede or replace any other valid permit, regulatory or statutory requirement. Furthermore, this approval to operate shall not relieve Steel Dynamics, Inc. - Roanoke Bar Division of the responsibility to comply with all other local, state, and federal regulations, including permit regulations.
(9VAC5-80-110 and Condition 15 of 3/25/2020 Permit Document)

63. **Federal Enforceability** – **(EAF #5)** - Once the 3/25/2020 permit was approved by the U.S. Environmental Protection Agency into the Commonwealth of Virginia State Implementation Plan, the permit is enforceable by EPA and citizens under the federal Clean Air Act.
(9VAC5-80-110 and Condition 16 of 3/25/2020 Permit Document)

64. **Permit Modification - (EAF #5)** - DEQ may modify, rewrite, or amend the 3/25/2020 permit with the consent of Steel Dynamics, Inc. - Roanoke Bar Division for good cause shown Steel Dynamics, Inc. - Roanoke Bar Division, or on its own motion provided approval of the changes is accomplished in accordance with Regulations of the Board and the Administrative Process Act (§ 2.2-4000 et seq.); however, such changes shall not be effective until the changes are approved following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).
(9VAC5-80-110 and Condition 17 of 3/25/2020 Permit Document)

65. **Failure to Comply** - **(EAF #5)** - Failure by Steel Dynamics, Inc. - Roanoke Bar Division to comply with any of the conditions of the 3/25/2020 permit shall constitute a violation of a Permit of the DEQ. Failure to comply may result in a Notice of Violation and civil penalty. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of orders as appropriate by the DEQ as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
(9VAC5-80-110, 9VAC5-80-820 F, and Condition 18 of 3/25/2020 Permit Document)

Testing

66. **Process Equipment Requirements - (EAF #5) – Testing** – During performance tests required in 40 CFR 60.8, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric filter in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.
(9VAC5-80-110, 9VAC5-50-30, and 40 CFR 60.275a)

67. **Process Equipment Requirements - (EAF #5) – Testing** – In conducting the performance tests as required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR 60 of other methods and procedures as specified in 40 CFR 60.275a, except as provided in 40 CFR 60.8(b).
(9VAC5-80-110, 9VAC5-50-30, and 40 CFR 60.275a)

68. **Process Equipment Requirements – (EAF #5) – Testing** – The permittee shall determine compliance with the particulate matter (PM) standards in 40 CFR 60.272a according to 40 CFR 60.275a.
(9VAC5-80-110, 9VAC5-50-30, and 40 CFR 60.275a)

69. **Process Equipment Requirements – (EAF #5) – Testing** - The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate test methods and procedures. Upon request from the DEQ, test ports shall be provided at the appropriate locations.
(9VAC5-80-110, 9VAC5-50-30, 40 CFR 60.275a, and Condition 9 of 12/9/2019 Permit)

70. **Process Equipment Requirements – (EAF #5) – Testing** – To comply with 40 CFR 60.274a (h), the permittee shall obtain the information required in this subpart during the particulate matter runs.
(9VAC5-80-110, 9VAC5-50-30, and 40 CFR 60.275a)

71. **Process Equipment Requirements – (EAF #5) - Performance Testing** - Upon request and proper notification by DEQ or EPA, the permittee shall conduct performance tests to measure nitrogen oxides (NOx) emissions from any of the equipment in this permit to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, Blue Ridge Regional Office.
(9VAC5-80-110, 9VAC5-40-30 and Condition 13 of 3/25/2020 Permit Document)

72. **Process Equipment Requirements – (EAF #5) - Performance Testing** - At an interval not to exceed five years, the permittee shall conduct a performance test for PM and PM-10 from EAF #5 baghouse (PCD-274) to determine compliance with the emission limit in Condition 34. The tests shall be performed, reported and demonstrate compliance within 180 days of the permit effective date. Tests shall be conducted and reported, and data reduced as set forth in 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. The performance test shall include a test method performance audit, where applicable. The details of the tests are to be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Blue Ridge Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-80-110)

MACT Subpart YYYYY – National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities (EAF #5)

General Provisions

73. **MACT Subpart YYYYY – (EAF #5)** – **General Provisions** - The permitted must comply with the requirements of the NESHAP General Provisions (40 CFR Part 63, subpart A) as provided in Table 1 of 40 CFR 63 Subpart YYYYY.
(9VAC5-80-110 and 40 CFR 63.10690)

Standards and Compliance Requirements

74. **MACT Subpart YYYYY – (EAF #5) – Chlorinated Plastics, Lead, and Free Organic Liquids** – For metallic scrap utilized in EAF #5, the permittee shall comply with the following requirements:

    a. *Pollution Prevention Plan* - For the production of steel other than leaded steel, the permittee shall prepare and implement a pollution prevention plan for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that is charged to the furnace. For the production of leaded steel, the permittee shall prepare and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics and free organic liquids in the scrap that is charged to the furnace. The permittee shall submit the scrap pollution prevention plan to the permitting authority for approval. The permittee shall operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The permittee shall keep a copy of the plan onsite, and shall provide training on the plan's requirements to all plant personnel with materials acquisition or inspection duties. Each plan must include the following information:

        i. Specifications that scrap materials shall be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace.

        ii. A requirement in the scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel.

        iii. Procedures for determining if the requirements and specifications in paragraph (a) of this section are met (such as visual inspection or periodic audits of scrap

providers) and procedures for taking corrective actions with vendors whose shipments are not within specifications.

iv. The requirements of paragraph (a) of this section do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials must be identified in the pollution prevention plan.

(9VAC5-80-110 and 40 CFR 63.10685)

b. *Restricted Metallic Scrap* - For the production of steel other than leaded steel, the permittee shall not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. For the production of leaded steel, the permittee shall not charge to the furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if the requirements in Condition 75 (b) are met.

(9VAC5-80-110 and 40 CFR 63.10685(a))

75. **MACT Subpart YYYYY – (EAF #5) – Mercury Requirements** - For scrap containing motor vehicle scrap, the permittee shall procure the scrap pursuant to one of the compliance options (a through c) below for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, the permittee must procure the scrap pursuant to the requirements in paragraph (d) below for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

a. *Site-Specific Plan for Mercury Switches* - The permittee shall comply with following requirements:

i. Include a requirement for removal of mercury switches from vehicle bodies used to make the scrap.

ii. Prepare and operate according to a plan demonstrating how the facility will implement the scrap specification in paragraph (i) above for removal of mercury switches. The permittee shall submit the plan to the permitting authority for approval. The permittee shall operate according to this plan as submitted during

the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the permitting authority. The Director, Blue Ridge Regional Office may change the approval status of the plan upon a 90-day written notice based upon the semiannual compliance report or other information. The plan shall include:

A. A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR part 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Director, Blue Ridge Regional Office, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols;

B. Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification;

C. Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and

D. Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in paragraph (C) of this section.

iii. Require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the facility during the previous year and the basis for the estimate. The Director, Blue Ridge Regional Office may request documentation or additional information at any time.

iv. Establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under paragraph (a) may require only the removal of convenience light switch mechanisms, the Director, Blue Ridge Regional Office shall credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal.

v. For each scrap provider, submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (A) of this section. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The Director, Blue Ridge Regional Office may change the approval status of a site-specific plan following 90-day notice based on the progress reports or other information.

b. *Option for Approved Mercury Programs* - The permittee shall certify in the notification of compliance status of participation in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Director, Blue Ridge Regional Office based on the criteria in paragraphs (i) through (iii) below. If motor vehicle scrap is purchased from a broker, the permittee shall certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Director, Blue Ridge Regional Office based on the criteria in paragraphs (i) through (iii) below. The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs unless and until the Administrator disapproves the program (in part or in whole) according to paragraph (iii).

i. The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches;

ii. The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although an approved program may require only the removal of convenience light switch mechanisms, the Director, Blue Ridge Regional Office will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride

control, and other applications) when evaluating progress towards the 80 percent goal; and

iii. The program sponsor agrees to submit progress reports to the Director, Blue Ridge Regional Office, no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following a 90-day notice based on the progress reports or on other information.

iv. Develop and maintain onsite a plan demonstrating the manner through which the facility is participating in the EPA-approved program.

v. For each scrap provider, the permittee shall submit semiannual progress reports to the permitting authority that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (A) below. This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The permitting authority may change the approval status of a site-specific plan following a 90-day notice based on the progress reports or other information.

A. The plan must include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility.

B. Provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Director, Blue Ridge Regional Office, provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols.

C. Conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are

implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles.

c. *Option for Specialty Metal Scrap* – The permittee shall certify in the notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches.

d. *Scrap That Does Not Contain Motor Vehicle Scrap* - For scrap not subject to the requirements in Condition 75 (a) through (c), the permittee shall certify in the notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

(9VAC5-80-110 and 40 CFR 63.10685)

Limitations

76. **MACT Subpart YYYYY – (EAF #5) - Limitations** - The permittee must install, operate, and maintain a capture system that collects the emissions from EAF #5 (including charging, melting, and tapping operations) and convey the collected emissions to a control device for the removal of particulate matter.
(9VAC5-80-110 and 40 CFR 63.10686)

Monitoring

77. **MACT Subpart YYYYY – (EAF #5) - Monitoring** – The permittee must monitor the capture system and PM control device required by this subpart, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR part 64.
(9VAC5-80-110 and 40 CFR 63.10686)

Recordkeeping and Reporting

78. **MACT Subpart YYYYY – (EAF #5) – Recordkeeping and Reporting** - In addition to the records required by §63.10, the permittee shall keep records to demonstrate compliance with the requirements for the pollution prevention plan in Condition 74.a) and/or for the use of only restricted scrap in Condition 74(b) and for mercury in paragraphs 75(a) through (c) as applicable. The permittee shall keep records documenting compliance with paragraph 75(d) for scrap that does not contain motor vehicle scrap.

a. *Site Specific Plan for Mercury Switches* - If subject to the requirements for a site-specific plan for mercury under Condition 75(a), the permittee shall:

i. Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

ii. Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that the permittee has conducted inspections or taken other means of corroboration as required under Condition 75 (C). The permittee shall include this information in the semiannual compliance reports required under paragraph (c).

b. *Option for Approved Mercury Programs* - If subject to the option for approved mercury programs under Condition 75(b), the permittee shall maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If motor vehicle scrap is purchased from a broker, the permittee shall maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program.

c. *Semiannual Compliance Reports* - The permittee shall submit **s**emiannual compliance reports to the Director, Blue Ridge Regional Office for the control of contaminants from scrap according to the requirements in 40 CFR 63.10(e). The report must identify any deviation from the requirements in paragraphs (a) and (b) and the corrective action taken. The permittee shall identify which compliance option in paragraph (b) applies to each scrap provider, contract, or shipment.

(9VAC5-80-110 and 40 CFR 63.10685)

79. **MACT Subpart YYYYY – (EAF #5) - Recordkeeping** – The permittee must maintain records according to the compliance assurance monitoring requirements in the Title V permit.
(9VAC5-80-110 and 40 CFR 63.10686)

Process Equipment Requirements – Ladle Metallurgical Station 5 (LMS #5)

Limitations

80. **Process Equipment Requirements - (LMS #5) - Limitations** – Particulate (PM, PM-10) emissions from LMS #5 shall be controlled by fabric filter (PCD-7). The fabric filter shall be provided with adequate access for inspection. The fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. The

device shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times.
(9VAC5-80-110 and Condition 5 of 12/19/2019 Permit Document)

81. **Process Equipment Requirements - (LMS #5) - Limitations** - The annual production of molten steel from LMS #5 shall not exceed 876,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.
(9VAC5-80-110 and Condition 11 of 12/19/2019 Permit Document)

82. **Process Equipment Requirements - (LMS #5) - Limitations** - Emissions from the operation of LMS #5 shall not exceed the limits specified below:

PM	0.0052 gr/dscf	2.80 lb/hr	12.2 ton/yr
PM-10 (filterable only)		2.80 lb/hr	12.2 ton/yr
Sulfur Dioxide		6.00 lb/hr	26.3 ton/yr
Nitrogen Oxides (as NO_2)		6.00 lb/hr	26.3 ton/yr
Carbon Monoxide		48.00 lb/hr	210.2 ton/yr
Volatile Organic Compounds		0.20 lb/hr	0.88 ton/yr
Lead (Pb)		0.09 lb/hr	0.40 ton/yr
Fluoride		0.16 lb/hr	0.68 ton/yr

(9VAC5-80-110, 9VAC5-40-7410, 40 CFR 60.272a (a)(1), Condition 20 of 12/19/2019 Permit Document, and Condition 11 of 3/25/2020 Permit Document)

83. **Process Equipment Requirements - (LMS #5) - Limitations** - Visible emissions from the LMS #5 shall not exhibit three (3) percent or greater opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and Condition 22 of 12/19/2019 Permit Document)

84. **Process Equipment Requirements - (LMS #5) - Limitations** - Visible emissions from the dust handling systems for LMS #5 shall not exhibit ten (10) percent or greater opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and Condition 24 of 12/19/2019 Permit Document)

85. **Process Equipment Requirements - (LMS #5) - Limitations** - In accordance with 9VAC5-40-7410, the facility shall meet either the presumptive RACT requirements of 9VAC5-40-7430 or the RACT requirements determined by a RACT determination in

accordance with 9VAC5-40-7410 for the following equipment which are sources of NOx emissions and implemented through the remaining conditions of this permit:

LMS #5 (Ladle Metallurgical Station), refines molten steel from EAF #5, 100 ton/hr steel output rated capacity, heated with electricity.

(9VAC5-80-110, 9VAC5-40-7410, and Condition 1 of 3/25/2020 Permit Document)

86. **Process Equipment Requirements - (LMS #5) - Limitations** - NOx emissions from Ladle Metallurgical Station #5 for refining molten steel shall be controlled by proper operation and maintenance. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule. These procedures shall be based on the manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.
(9VAC5-80-110, 9VAC5-40-7410, and Condition 5 of 3/25/2020 Permit Document)

Monitoring

87. **Process Equipment Requirements - (LMS #5) – Monitoring –** The LMS #5 fabric filter (PCD-7) shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9VAC5-80-110 E & K)

88. **Process Equipment Requirements - (LMS #5) – Monitoring -** To ensure good performance, the monitoring device used to continuously measure differential pressure drop across the fabric filter (PCD-7), shall be observed by the permittee with a frequency of at least once per calendar day. The permittee shall keep a log of the observations from the monitoring device.
(9VAC5-80-110 E & K)

89. **Process Equipment Requirements - (LMS #5) – Monitoring -** The permittee shall establish a normal operating range for the differential pressure drop across the fabric filter (PCD-7), based on manufacturer’s recommendations, developed from observations recorded from the monitoring device during normal operation, performance test data, and/or other DEQ approved methods. The permittee shall maintain written documentation of this range.
(9VAC5-80-110 E & K)

90. **Process Equipment Requirements - (LMS #5) – Monitoring** – At least one time per day, an observation for the presence of visible emissions from the LMS #5 stack shall be made. If visible emissions are observed, the permittee shall:

    a. Take timely corrective action such that the equipment resumes operation with no visible emissions, or,

    b. Conduct a visible emission evaluation (VEE) on the LMS #5 stack in accordance with 40 CFR 60, Appendix A, Method 9 for a minimum of six minutes to assure visible emissions from the filter exhaust do not exceed 3 percent opacity. If any of the observations exceed the opacity limitation of 3 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the LMS #5 stack resumes operation within the 3 percent opacity limit.

    The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the LMS #5 has not been operated for any period during the entire week, it shall be noted in the logbook.
    (9VAC5-80-110 E & K)

Compliance Assurance Monitoring

91. **Process Equipment Requirements - (LMS #5) - Compliance Assurance Monitoring (CAM) -** The permittee shall monitor, operate, calibrate and maintain the baghouse (PCD 7) controlling PM emissions from LMS #5 according to the CAM plan attached to this permit (Attachment B).
    (9VAC5-80-110 and 40 CFR 64.6 (c))

92. **Process Equipment Requirements (LMS #5) - CAM** - The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.
    (9VAC5-80-110 and 40 CFR 64.6 (c))

93. **Process Equipment Requirements (LMS #5) – CAM** - At all times, the permittee shall maintain the monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
    (9VAC5-80-110 E and 40 CFR 64.7 (b))

94. **Process Equipment Requirements (LMS #5) – CAM** - Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that LMS #5 is operating. Data recorded

during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.
(9VAC5-80-110 E and 40 CFR 64.7 (c))

95. **Process Equipment Requirements (LMS #5) – CAM** - Upon detecting an excursion or exceedance, the permittee shall restore operation of LMS #5 (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.
(9VAC5-80-110 E and 40 CFR 64.7 (d)(1))

96. **Process Equipment Requirements (LMS #5) – CAM** - Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
(9VAC5-80-110 E and 40 CFR 64.7(d)(2))

97. **Process Equipment Requirements (LMS #5) – CAM** - If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Blue Ridge Regional Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
(9VAC5-80-110 E and 40 CFR 64.7(e))

98. **Process Equipment Requirements (LMS #5) – CAM** - If the number of exceedances or excursions exceeds 5 percent duration of the operating time for the LMS #5 for a

semiannual reporting period, the permittee shall develop, implement and maintain a Quality Improvement Plan (QIP) in accordance with 40 CFR 64.8. If a QIP is required, the permittee shall have it available for inspection. The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the permittee shall modify the plan to include procedures for conducting one or more of the following, as appropriate:

a. Improved preventative maintenance practices;

b. Process operation changes;

c. Appropriate improvements to control methods;

d. Other steps appropriate to correct control performance; and

e. More frequent or improved monitoring.

(9VAC5-80-110 E and 40 CFR 64.8(a) and (b))

Recordkeeping

99. **Process Equipment Requirements – (LMS #5) – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. The total amount of NOx emitted from the facility using methods and/or calculations approved by DEQ, calculated monthly as the sum of the previous consecutive twelve-month period.

b. Annual production of steel for LMS #5, calculated monthly as the sum of the previous consecutive twelve-month period.

c. The NOx performance test reports for any equipment in this permit, including for LMS #5.

d. Records of operator training, maintenance schedules and record of maintenance performed that could affect NOx emissions as required by the Process Requirements – Limitations for LMS #5.

e. The permittee shall maintain written documentation of the normal operating range for the differential pressure drop across the fabric filter from Condition 89.

f. Results of all visible emission evaluations and performance evaluations.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9VAC5-80-110 K, 9VAC5-40-7510, and Condition 14 of 3/25/2020 Permit Document)

100. **Operating Procedures - (LMS #5) – Recordkeeping -** The permittee shall have available written operating procedures for the permitted equipment and for the related air pollution control equipment. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training and nature of training.
(9VAC5-80-110 and Condition 32 of 12/19/2019 Permit Document)

101. **Compliance Assurance Monitoring (CAM) – (LMS #5) - Recordkeeping** - The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan (QIP) required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan (QIP), and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
(9VAC5-80-110 K and 40 CFR 64.9(b))

Reporting

102. **Compliance Assurance Monitoring (CAM) – (LMS #5) - Reporting** - The permittee shall submit CAM reports as part of the Title V semi-annual monitoring reports required by General Condition 135 of this permit to the Blue Ridge Regional Office. Such reports shall include at a minimum:

    a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

    b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

    c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

    (9VAC5-80-110 and 40 CFR 64.9(a))

103. **Relationship to Other Permit Requirements - (LMS #5)** - Except to the extent that the conditions in this permit that are derived from the 3/25/2020 permit may be more stringent, this permit does not supersede or replace any other valid permit, regulatory or statutory requirement. Furthermore, this approval to operate shall not relieve Steel Dynamics, Inc. - Roanoke Bar Division of the responsibility to comply with all other local, state, and federal regulations, including permit regulations.
(9VAC5-80-110 and Condition 15 of 3/25/2020 Permit Document)

104. **Federal Enforceability - (LMS #5)** - Once the 3/25/2020 permit was approved by the U.S. Environmental Protection Agency into the Commonwealth of Virginia State Implementation Plan, the permit is enforceable by EPA and citizens under the federal Clean Air Act.
(9VAC5-80-110 and Condition 16 of 3/25/2020 Permit Document)

105. **Permit Modification - (LMS #5)** - DEQ may modify, rewrite, or amend the 3/25/2020 permit with the consent of Steel Dynamics, Inc. - Roanoke Bar Division for good cause shown Steel Dynamics, Inc. - Roanoke Bar Division, or on its own motion provided approval of the changes is accomplished in accordance with Regulations of the Board and the Administrative Process Act (§ 2.2-4000 et seq.); however, such changes shall not be effective until the changes are approved following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans).
(9VAC5-80-110 and Condition 17 of 3/25/2020 Permit Document)

106. **Failure to Comply - (LMS #5)** - Failure by Steel Dynamics, Inc. - Roanoke Bar Division to comply with any of the conditions of the 3/25/2020 permit shall constitute a violation of a Permit of the DEQ. Failure to comply may result in a Notice of Violation and civil penalty. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of orders as appropriate by the DEQ as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
(9VAC5-80-110, 9VAC5-80-820 F, and Condition 18 of 3/25/2020 Permit Document)

Testing

107. **Process Equipment Requirements – (LMS #5) - Performance Testing** - Upon request and proper notification by DEQ or EPA, the permittee shall conduct performance tests to measure nitrogen oxides (NOx) emissions from any of the equipment in this permit to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Air Compliance Manager, Blue Ridge Regional Office.
(9VAC5-80-110, 9VAC5-40-30 and Condition 13 of 3/25/2020 Permit Document)

108. **Process Equipment Requirements – (LMS #5) - Performance Testing** - At an interval not to exceed five years, the permittee shall conduct performance tests for PM and PM_{10} from LMS #5 baghouse (PCD-7) to determine compliance with the emission limit in Condition 82. The tests shall be performed, reported and demonstrate compliance within

180 days of the permit effective date. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30. The performance test shall include a test method performance audit, where applicable. The details of the tests are to be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Blue Ridge Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-80-110)

Process Equipment Requirements – SMS Billet Reheat Furnace (SMS BRF)

Limitations

109. **Process Equipment Requirements - (SMS BRF) – Limitations -** NOx emissions from the Billet Reheat Furnace (SMS BRF) shall be controlled by low NOx burners and exhaust gas recirculation (EGR). The low NOx burners and exhaust gas recirculation (EGR) shall be provided with adequate access for inspection and shall be in operation at all times when the Billet Reheat Furnace is operating.
(9VAC5-80-110 and Condition 1 of 9/13/2022 Permit Document)

110. **Process Equipment Requirements - (SMS BRF) – Limitations -** The throughput of steel billets through the Billet Reheat Furnace (SMS BRF) shall not exceed 720,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 2 of 9/13/2022 Permit Document)

111. **Process Equipment Requirements - (SMS BRF) – Limitations -** The approved fuel for the Billet Reheat Furnace (SMS BRF) is natural gas. A change in the fuel shall be considered a change in the method of operation of the Billet Reheat Furnace (SMS BRF) and may require a new or amended permit. However, if a change in the fuel is not subject to new source review permitting requirements, this condition should not be construed to prohibit such a change.
(9VAC5-80-110 and Condition 3 of 9/13/2022 Permit Document)

112. **Process Equipment Requirements - (SMS BRF) – Limitations -** The Billet Reheat Furnace (SMS BRF) shall consume no more than 791 x 10^6 cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 4 of 9/13/2022 Permit Document)

113. **Process Equipment Requirements - (SMS BRF) – Limitations -** Emissions from the Billet Reheat Furnace (SMS BRF) shall not exceed the limit specified below:

Nitrogen Oxides (as NO_2)	0.06 lb/MMBtu	24.2	ton/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 109, 110, 112, and 118.
(9VAC5-80-110 and Condition 5 of 9/13/2022 Permit Document)

114. **Process Equipment Requirements - (SMS BRF) – Limitations -** Emissions from the Billet Reheat Furnace (SMS BRF) shall not exceed the limit specified below:

PM2.5	1.2 lb/hr	3.0	ton/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 110, 112 and 118.
(9VAC5-80-110 and Condition 6 of 9/13/2022 Permit Document)

115. **Process Equipment Requirements - (SMS BRF) – Limitations -** Visible emissions from Billet Reheat Furnace (SMS BRF) stack shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and Condition 7 of 9/13/2022 Permit Document)

Monitoring

116. **Process Equipment Requirements - (SMS BRF) – Monitoring –** At least one time per week, an observation for the presence of visible emissions from the Billet Reheat Furnace stack shall be made. If visible emissions are observed, the permittee shall:

a. Take timely corrective action such that the equipment resumes operation with no visible emissions, or,

b. Conduct a visible emission evaluation (VEE) on the Billet Reheat Furnace (SMS BRF) stack in accordance with 40 CFR 60, Appendix A, Method 9 for a minimum of six minutes to assure visible emissions from the stack do not exceed 10 percent opacity. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the SMS BRF resumes operation within the 5 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the Billet Reheat Furnace (SMS BRF) has not been operated for any period during the entire week, it shall be noted in the logbook.
(9VAC5-80-110 E & K)

Testing

117. **Process Equipment Requirements - (SMS BRF) – Testing –** The Billet Reheat Furnace (SMS BRF) shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.
(9VAC5-80-110 and Condition 9 of 9/13/2022 Permit Document)

Recordkeeping

118. **Process Equipment Requirements - (SMS BRF) – Recordkeeping** – The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. Annual throughput of steel, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual consumption of natural gas calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Monthly emissions calculations for NOx from the Billet Reheat Furnace (SMS BRF) using calculation methods approved by the Blue Ridge Regional Office to verify compliance with the ton/yr emissions limitations in Condition 113.

d. Monthly emissions calculations for PM2.5 from the Billet Reheat Furnace (SMS BRF) using calculation methods approved by the Blue Ridge Regional Office to verify compliance with the ton/yr emissions limitations in Condition 114.

e. Records required by Condition 119.

f. Scheduled and unscheduled maintenance and operator training.

g. Results of all stack tests, visible emission evaluations and performance evaluations.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-110 and Condition 8 of 9/13/2022 Permit Document)

119. **Condition for Granting Permit - (SMS BRF) –** No project shall result in a major modification as defined in 9VAC5-80-1615 without receiving a permit pursuant to 9VAC5-80 Article 8. For projects which rely on projected emissions, not potential to emit, to be exempt from review under 9VAC5-80 Article 8, the following conditions shall apply:

a. The permittee shall maintain records sufficient to demonstrate the project did not result in a major modification as defined in 9VAC5-80-1615. Any increase in emissions without sufficient documentation to demonstrate it was not caused by a project shall be attributed to that project.

b. If annual emissions after a project (12 month rolling total) exceed the projected actual emissions for the project, the permittee shall notify the Blue Ridge Regional Office within thirty (30) days after the event.

For each applicable project, Conditions 119.a and 119.b are effective for the projection period as prescribed in the definition of "projected actual emissions" located in 9VAC5-80-1615. Nothing in this condition shall restrict when the DEQ may find the permittee in violation of 9VAC5-80-1625.
(9VAC5-80-110 and Condition 10 of 9/13/2022 Permit Document)

120. **Maintenance and Operating Procedures - (SMS BRF)** - At all times, including periods of start-up, shutdown and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9VAC5-80-110, and Condition 13 of the 9/13/2022 Permit Document)

Process Equipment Requirements – Miscellaneous Processes (EU-14, EU-15, EU-16, 144)

Limitations

121. **Process Equipment Requirements - (EU-14, EU-15, and EU-16)** – **Limitations** – Visible emissions from the Lime Storage Silos shall not exceed 20% opacity except during one six-minute period in any one hour in which the visible emissions shall not exceed 60% opacity.
(9VAC5-40-80, 9VAC5-40-320, and 9VAC5-80-110)

122. **Process Equipment Requirements - (144)** – **Limitations** – Visible emissions from the Carbon Silo shall not exceed 20% opacity except during one six-minute period in any one hour in which the visible emissions shall not exceed 30% opacity.
(9VAC5-50-80 and 9VAC5-80-110)

Monitoring

123. **Process Equipment Requirements - (EU-14, EU-15, and EU-16) – Monitoring –** At least one time per week, an observation for the presence of visible emissions from each Lime Storage Silo filter shall be made. If visible emissions are observed, the permittee shall:

a. Take timely corrective action such that the equipment resumes operation with no visible emissions, or,

b. Conduct a visible emission evaluation (VEE) on the Lime Storage Silo filter in accordance with 40 CFR 60, Appendix A, Method 9 for a minimum of six minutes to assure visible emissions from the filter exhaust do not exceed 20 percent opacity. If

any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the lime silo resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the Lime Storage Silo has not been operated for any period during the entire week, it shall be noted in the logbook.
(9VAC5-80-110 E & K)

124. **Process Equipment Requirements - (144) – Monitoring –** At least one time per week, an observation for the presence of visible emissions from the Carbon Silo filter shall be made. If visible emissions are observed, the permittee shall:

a. Take timely corrective action such that the equipment resumes operation with no visible emissions, or,

b. Conduct a visible emission evaluation (VEE) on the Carbon Silo filter in accordance with 40 CFR 60, Appendix A, Method 9 for a minimum of six minutes to assure visible emissions from the filter exhaust do not exceed 20 percent opacity. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the lime silo resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the Carbon Silo has not been operated for any period during the entire week, it shall be noted in the logbook.
(9VAC5-80-110 E & K)

Recordkeeping

125. **Process Equipment Requirements - (EU-14, EU-15, and EU-16) – Recordkeeping** – The permittee shall maintain records of emission data as necessary to demonstrate compliance with the limitations in Condition 121 of this permit. This record shall include an observation log of visible emissions readings in accordance with Condition 123. (9VAC5-80-110 and 9VAC5-80-110 K)

126. **Process Equipment Requirements - (144) – Recordkeeping** – The permittee shall maintain records of emission data as necessary to demonstrate compliance with the limitations in Condition 122 of this permit. This record shall include an observation log of visible emissions readings in accordance with Condition 124. (9VAC5-80-110 and 9VAC5-80-110 K)

Facility Wide Conditions

Testing

127. **Facility Wide Conditions - Testing** - The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the DEQ, test ports shall be provided at the appropriate locations. (9VAC5-80-110, 9VAC5-40-30, and 9VAC5-50-30)

128. **Facility Wide Conditions - Testing** - If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the appropriate method(s) in accordance with procedures approved by the DEQ. (9VAC5-80-110)

Insignificant Emission Units

129. **Insignificant Emission Units** - The following emission units at the facility are identified in the application as insignificant emission units under 9VAC5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
101	Scrap Handling	9VAC5-80-720B	PM_{10}	--
106	Waste Oil Tank	9VAC5-80-720B	VOC	--
107	Gasoline Tank	9VAC5-80-720B	VOC	--
108	Waste Oil Tank	9VAC5-80-720B	VOC	--
109	Alloy Storage Area	9VAC5-80-720B	PM_{10}	--
110	Refractory Storage	9VAC5-80-720B	PM_{10}	--
111	Alloy Handling Area	9VAC5-80-720B	PM_{10}	--

Emission Unit No.	Emission Unit Description	Citation	Pollutant Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
112	Mill Scale Separator	9VAC5-80-720B	PM_{10}	--
117	Motor Oil Tanks (2)	9VAC5-80-720B	VOC	--
118	Tundish Lancing	9VAC5-80-720B	PM_{10}, $PM_{2.5}$	--
119	Tundish Preheater	9VAC5-80-720C	--	1.5 MMBtu/hr
124	Tundish Heater	9VAC5-80-720C	--	2.0 MMBtu/hr
125	Tundish Heater	9VAC5-80-720C	--	2.0 MMBtu/hr
126	Ladle Dryer	9VAC5-80-720C	--	4.1 MMBtu/hr
127	Propylene Containers	9VAC5-80-720B	VOC	--
128	Fuel Oil Tank	9VAC5-80-720B	VOC	--
129	Fuel Oil Tank	9VAC5-80-720B	VOC	--
130	Scrap Prep Torches	9VAC5-80-720B	NOx, SOx, CO, PM_{10}, $PM_{2.5}$, VOC	--
131	Space Heaters	9VAC5-80-720C	--	5.0 MMBtu/hr
132	Cooling Towers	9VAC5-80-720B	PM_{10}, $PM_{2.5}$	--
133	Ladle and Tundish Refurbishing	9VAC5-80-720B	PM_{10}, $PM_{2.5}$	--
134	Rolling Mill	9VAC5-80-720B	PM_{10}, $PM_{2.5}$	--
135	Caster Cutoff Torches	9VAC5-80-720B	NOx, SOx, CO, PM_{10}, $PM_{2.5}$, VOC	--
136	Water/Glycol Tank	9VAC5-80-720B	VOC	--
137	Hydraulic Oil Tank	9VAC5-80-720B	VOC	--
138	Gasoline Tank	9VAC5-80-720B	VOC	--
139	Fuel Oil Tank	9VAC5-80-720B	VOC	--
140	Fuel Oil Tank	9VAC5-80-720B	VOC	--
141	Lubricating Oil Tank	9VAC5-80-720B	VOC	--
142	Lubricating Oil Tank	9VAC5-80-720B	VOC	--
143	Lubricating Oil Tank (6)	9VAC5-80-720B	VOC	--
EU-28	Natural gas Ladle Preheater	9VAC5-80-720C	--	7.5 MMBtu/hr
EU-29	Natural gas Ladle Preheater	9VAC5-80-720C	--	7.5 MMBtu/hr
EU-30	Natural gas Ladle Preheater	9VAC5-80-720C	--	7.5 MMBtu/hr

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9VAC5-80-110. (9VAC5-80-110)

Permit Shield & Inapplicable Requirements

130. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60.273a (d)	Emission Monitoring	EAF #5 exempt from furnace static monitoring device

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to §114 of the federal Clean Air Act, (ii) the DEQ pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9VAC5-80-110 and 9VAC5-80-140)

General Conditions

131. **General Conditions - Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9VAC5-80-110)

132. **General Conditions - Permit Expiration**

a. This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Blue Ridge Regional Office consistent with the requirements of 9VAC5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

b. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.

c. If an applicant submits a timely and complete application for an initial permit or renewal under 9VAC5-80-80 F, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of

9VAC5 Chapter 80, until the DEQ takes final action on the application under 9VAC5-80-150.

d. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9VAC5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9VAC5 Chapter 80.

e. If an applicant submits a timely and complete application under section 9VAC5-80-80 for a permit renewal but the DEQ fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9VAC5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

f. The protection under subsections F 1 and F 5 (ii) of section 9VAC5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9VAC5-80-80 D, the applicant fails to submit by the deadline specified in writing by the DEQ any additional information identified as being needed to process the application.

(9VAC5-80-80, 9VAC5-80-110 and 9VAC5-80-170)

133. **General Conditions -Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

a. The date, place as defined in the permit, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of such analyses; and

f. The operating conditions existing at the time of sampling or measurement.

(9VAC5-80-110)

134. **General Conditions -Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration

and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
(9VAC5-80-110)

135. **General Conditions -Recordkeeping and Reporting** - The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9VAC5-80-80 G, and shall include:
    a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31; and

    b. All deviations from permit requirements. For purpose of this permit, deviations include, but are not limited to:

        i. Exceedances of emissions limitations or operational restrictions;

        ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring or periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,

        iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

    c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semiannual reporting period."

    (9VAC5-80-110)

136. **General Conditions - Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending **December 31**. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five (5) years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9VAC5-80-80 G, and shall include:

    a. The time period included in the certification. The time period to be addressed is January 1 to December 31;

b. The identification of each term or condition of the permit that is the basis of the certification;

c. The compliance status;

d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance;

e. Consistent with subsection 9VAC5-80-110, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period;

f. Such other facts as the permit may require to determine the compliance status of the source; and

g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3_APD_Permits@epa.gov

(9VAC5-80-110)

137. **General Conditions - Permit Deviation Reporting** - The permittee shall notify the Blue Ridge Regional Office within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semiannual compliance monitoring report pursuant to Condition 135 of this permit. (9VAC5-80-110 F. 2)

138. **General Conditions - Failure/Malfunction Reporting** - In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall no later than four daytime business hours after the malfunction is discovered, notify the Blue Ridge Regional Office such failure or malfunction and within 14 days provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Blue Ridge Regional Office. (9VAC5-80-110 and 9VAC5-20-180)

139. **General Conditions - Severability** - The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any

circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9VAC5-80-110)

140. **General Conditions - Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is ground for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9VAC5-80-110)

141. **General Conditions - Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9VAC5-80-110)

142. **General Conditions - Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9VAC5-80-50, 9VAC5-80-1100, 9VAC5-80-1605, or 9VAC5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9VAC80-110, 9VAC5-80-190, and 9VAC5-80-260)

143. **General Conditions - Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9VAC5-80-110)

144. **General Conditions - Duty to Submit Information** - The permittee shall furnish to the DEQ, within a reasonable time, any information that the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality.
(9VAC5-80-110)

145. **General Conditions - Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the DEQ shall contain a certification by a responsible official that meets the requirements of 9VAC5-80-80 G.
(9VAC5-80-110)

146. **General Conditions - Duty to Pay Permit Fees** - The owner of any source for which a permit was issued under 9VAC5-80-50 through 9VAC5-80-300 shall pay annual emissions fees, as applicable, consistent with the requirements of 9VAC5-80-310 through 9VAC5-80-

350 and annual maintenance fees, as applicable, consistent with the requirements of 9VAC5-80-2310 through 9VAC5-80-2350.
(9VAC5-80-110, 9VAC5-80-310 et seq., and 9VAC5-80-2310 et seq.)

147. **General Conditions - Fugitive Dust Emission Standards** - During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

    a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

    b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

    c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or similar operations;

    d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

    e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

    (9VAC5-80-110 and 9VAC5-50-90)

148. **General Conditions - Startup, Shutdown, and Malfunction** - At all times, including periods of startup, shutdown, and soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the DEQ, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9VAC5-80-110 and 9VAC5-50-20 E)

149. **General Conditions - Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario

under which it is operating. The permit shield described in 9VAC5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9VAC5 Chapter 80, Article 1.
(9VAC5-80-110)

150. **General Conditions - Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

    a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

    b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

    d. Sample or monitor at reasonable times' substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

    (9VAC5-80-110)

151. **General Conditions - Reopening for Cause** - The permit shall be reopened by the DEQ if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9VAC5-80-80 F. The conditions for reopening a permit are as follows:

    a. The permit shall be reopened if the DEQ or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

    b. The permit shall be reopened if the administrator or the DEQ determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

c. The permit shall not be reopened by the DEQ if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9VAC5-80-110 D.

(9VAC5-80-110)

152. **General Conditions - Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request. (9VAC5-80-110 and 9VAC5-80-150)

153. **General Conditions - Transfer of Permits**

a. No person shall transfer a permit from one location to another, unless authorized under 9VAC5-80-130, or from one piece of equipment to another.

b. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the DEQ of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9VAC5-80-200.

c. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the DEQ of the change in source name within 30 days of the name change and shall comply with the requirements of 9VAC5-80-200.

(9VAC5-80-110 and 9VAC5-80-160)

154. **General Conditions - Permit Revocation or Termination for Cause** - A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9VAC5 Chapter 80 Article 1. The DEQ may suspend, under such conditions and for such period of time as the DEQ may prescribe any permit for any grounds for revocation or termination or for any other violations of these regulations.
(9VAC5-80-110, 9VAC5-80-190 C, and 9VAC5-80-260)

155. **General Conditions - Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9VAC5-80-110 and 9VAC5-80-80 E)

156. **General Conditions - Stratospheric Ozone Protection** - If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F. (9VAC5-80-110 and 40 CFR Part 82)

157. **General Conditions - Accidental Release Prevention** - If the permittee has more or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68. (9VAC5-80-110 and 40 CFR Part 68)

COMPLIANCE ASSURANCE MONITORING PLAN FOR THE REVERSE AIR BAGHOUSE USED TO CONTROL PARTICULATE EMISSIONS FROM ELECTRIC ARC FURNACE #5 AT STEEL DYNAMICS INC. TITLE V PERMIT NO. BRRO20131

I. Background

A. Emissions Unit: EAF #5
Description: Electric arc furnace with a rated capacity to process 100 tons of steel an hour.
Facility: Steel Dynamics Inc.
102 Westside Boulevard NW
Roanoke, VA 24017

B. Applicable Regulation, Emissions Limit, and Current Monitoring Requirements

Regulation No.: 40 CFR 60 Subpart AAa
40 CFR 63 Subpart YYYYY
Title V Permit

Regulated pollutant: PM-10

Emissions Limit: PM-10: 7.5 lb/hr, 32.8 ton/yr
3% Opacity (6-minute average)

Monitoring Requirements: Continuous Opacity Monitoring System (COMS)/visible emissions and baghouse inspection and maintenance plan

C. Control Technology:

Reverse Air Baghouse (PCD-274)

II. Monitoring Approach

A. Indicators: Opacity (COMS), VEE (when COMS offline), and baghouse inspection and maintenance.

B. Measurement Approach: A part 60 certified COMS is used to measure opacity. If the COMS goes offline, EPA Method 9 will fulfill monitoring of opacity. A baghouse inspection and maintenance plan as a second monitoring approach.

C. Indicator Range: An excursion is defined as any 6-minute block average which exceeds an opacity value of 3%. Excursions trigger investigation and corrective action. Opacity values greater than 3% during startup, shutdown, and malfunction events are reportable but are not considered excursions.

The indicator range for the I&M plan is to perform no less than 100% of the specified procedures indicated by plan. An excursion is defined and reported as failure to perform any one of the specified inspection procedures from the I&M plan.

All excursions will be documented and reported accordingly.

The key elements of the monitoring approach are presented in the table in the following section.

D. Performance Criteria:

	Indicator 1	Indicator 1a[1]	Indicator 2
Indicators:	Opacity (COMS)	Visible Emissions	**BH Inspection**
Measurement Approach	Stack opacity is measured and recorded by a certified continuous opacity monitoring system (COMS).	Visible emissions from the baghouse exhaust are monitored (Method 22) when the furnace is in melting or refining mode. If VEs observed, a Method 9 is performed.	Implementation of the Baghouse Inspection and Maintenance Plan for properly operating and maintaining the control equipment.
Indicator Range	An excursion is defined and reported as any 6-minute block average which exceeds an opacity value of 3%. Excursions trigger investigation and corrective action.	An excursion is defined and reported as any visible emission. Excursions trigger investigation and corrective action.	An excursion is defined and reported as failure to perform any of the specified procedures in the Inspection & Maintenance Plan.
QIP Threshold	For the total number of opacity measurements, no more than 5% resulting from excursions shall occur in a 6-month reporting period.	Of total number of opacity measurements, no more than 5% resulting from excursions for a 6-month reporting period.	Of total number of inspections, no more than 5% resulting from excursions for a 6-month reporting period.
A. **Data Representativeness**	Direct measurement of opacity for the interval of the standard. Accuracy is within ±3%.	Measurements are made at the emission point (baghouse exhaust).	Proper inspection and maintenance of the baghouse per Inspection & Maintenance plan.
B. **Verification of Operational Status**	Verification of operational status is established during the daily calibration.	N/A	Verification of operational status is visually checked by operators daily.
C. **QA/QC Practices and Criteria**	Follow QA/QC procedures per 40 CFR 60, Appendix B and F. Daily calibration. Quarterly audits per Appendix F Procedure 3.	The Method 9 observer is certified every six months.	Trained personnel perform inspections and maintenance.
D. **Monitoring Frequency**	Continuous (readings occur every 21 seconds).	A minimum of three readings at 6-minute	Weekly, but can vary based on equipment manufacturer's schedule.

[1]When COMS is offline.

		intervals are performed daily.	
Data Collection Procedures	Data are collected by data acquisition and handling system (DAHS) and stored in an electronic database.	EPA Method 9 observations are documented and maintained onsite.	Hard copies of records of weekly inspection results are scanned and kept electronically.
Averaging Period	Readings take place every 21 seconds. Six-minute averages are produced by averaging 17 readings.	One observation performed every 15 seconds and averaged over 6 minutes.	None.

JUSTIFICATION

I. Background

This facility is a secondary steel mill that produces steel billets and other high quality finished steel products. The pollutant specific emissions unit is the EAF #5, which is used to melt scrap steel materials. Initial chemistry adjustments are also made while the molten steel is at EAF #5. Gases or fumes generated during charging operations are captured by an overhead canopy hood and conveyed to the EAF baghouse (PCD-274).

II. Rationale for Selection of Performance Indicators

COMS alone may be used to demonstrate compliance with the opacity limit for a single-stack control device (fabric filter). COMS readings are able to indicate changes in PM_{10} collection efficiency. Visible emissions observation (Method 9) is utilized as a backup method for opacity measurements when/if COMS is offline. Any increase in visible emissions indicates reduced performance of the control device. Inspection and maintenance of the baghouse materials assists in determining the longevity of the baghouse structure and fabric materials. Preventive maintenance is performed on the baghouse to ensure it continues to operate properly and that the bags are in good condition.

COMPLIANCE ASSURANCE MONITORING PLAN FOR THE PULSE JET BAGHOUSE USED TO CONTROL PARTICULATE EMISSIONS FROM THE LADLE METALLURGICAL STATION #5 AT STEEL DYNAMICS INC. TITLE V PERMIT NO. BRRO20131

I. Background

A. Emissions Unit: LMS #5
Description: Ladle metallurgical station with a rated capacity to process 100 tons of steel an hour.
Facility: Steel Dynamics Inc.
102 Westside Boulevard NW
Roanoke, VA 24017

B. Applicable Regulation, Emissions Limit, and Current Monitoring Requirements

Regulation No.: Title V Permit

Regulated pollutant: PM-10

Emissions Limit: PM-10: 2.8 lb/hr, 12.2 ton/yr
3% Opacity (6-minute average)

Monitoring Requirements: Opacity, differential pressure, and baghouse inspection and maintenance plan

C. Control Technology:

Pulse Jet Baghouse (PCD-7) operated under negative pressure.

II. Monitoring Approach

A. Indicators: Opacity, differential pressure, and baghouse inspection and maintenance.

B. Measurement Approach: The key elements of the monitoring approach for the stated emissions limits and standards are presented in Section D below. The selected performance indicators are opacity, differential pressure and baghouse inspection and maintenance.

C. Indicator Range: Any opacity would be considered an excursion. Excursions trigger investigation and corrective action. Opacity values greater than 3% during startup, shutdown, and malfunction events are reportable but are not considered excursions.

The indicator range of 1 – 10 in H_2O was selected for differential pressure ("pressure drop"). A differential pressure reading in excess of 10 in H_2O would be considered an excursion. Excursions trigger investigation and corrective action.

The indicator range for inspection and maintenance is to perform no less than 100% of the specified inspection procedures as indicated by the I&M plan. An excursion is defined and reported as failure to perform any one of the specified I&M procedures. Excursions trigger investigation and corrective action.

All excursions will be documented and reported accordingly.

The key elements of the monitoring approach are presented in the table in the following section.

D. Performance Criteria:

Indicator	Opacity	Differential Pressure	Baghouse Inspection
Measurement Approach	Visible emissions from the baghouse exhaust are monitored (Method 22) when the furnace is in melting or refining mode.	Pressure drop across the baghouse measured by manual reading the differential pressure gauge.	Implementation of the Baghouse Inspection and Maintenance Plan for properly operating and maintaining the control equipment.
Indicator Range	An excursion is defined and reported as any visible emissions. Excursions trigger investigation and corrective action.	An excursion is defined and reported as a pressure drop greater than 10" water. Excursions trigger investigation and corrective action.	An excursion is defined and reported as failure to perform any of the specified procedures in the Inspection & Maintenance Plan.
QIP Threshold	Of total number of opacity measurements, no more than 5% as excursions for a 6-month reporting period.	Of total number of ΔP measurements, no more than 5% as excursions for a 6-month reporting period.	Of total number of inspections, no more than 5% as excursions for a 6-month reporting period.
A. Data Representativeness	Measurements are made at the emission point (baghouse exhaust).	The differential pressure is the indicator to determine baghouse performance and particulate control. The pressure gauge range is 0-30" water.	Baghouse inspected visually for deterioration and bag samples taken to determine bag condition and remaining bag life.
B. Verification of Operational Status	Verification of operational status is visually checked by operators daily.	Verification of operational status is visually checked (pressure drop) daily.	Verification of operational status is visually checked by operators daily.
C. QA/QC Practices and Criteria	Certified/trained personnel perform evaluations.	Baghouse preventive maintenance program. Pressure gauge is calibrated annually.	Trained personnel perform inspections and maintenance.
D. Monitoring Frequency	Daily	Daily observation of differential pressure.	Weekly inspections. Maintenance intervals vary depending on equipment per manufacturer's instructions.
Data Collection Procedures	VEE observations are conducted daily by a certified observer. All records are documented by the observer and maintained onsite.	Differential pressure observations are performed daily and recorded.	Hard copies of records of weekly inspection results are scanned and maintained electronically.
Averaging Period	If Method 9 readings are required, one observation takes place every 15 seconds and averaged over 6 minutes.	N/A	Varies.

JUSTIFICATION

I. Background

The pollutant specific emissions unit is the LMS #5, where final metallurgical refinements are made to the composition of the steel after being melted in the EAF. The LMS contains side draft evacuation and ductwork in order to capture and convey fumes to the baghouse (PCD-7).

II. Rationale for Selection of Performance Indicators

Visible emission observations performed by a certified observer provides an appropriate demonstration for the opacity standard and immediate evidence of proper operation of the baghouse. Differential pressure verifies the condition of the bags and the overall baghouse operation. Inspection and maintenance of the baghouse materials assists in determining the longevity of the bag materials and structural equipment.

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test Dates.
4. Tester; name, address and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:
    a. Operating rate
    b. Test Methods
    c. Pollutants tested
    d. Test results for each run and the run average
    e. Pollutant standard or limit
5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section. Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

* Not applicable to visible emission evaluations